

# Bone Metabolism during Strict Head-Down Tilt Bed Rest and CO<sub>2</sub> Exposure

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**Purpose: Evaluate the metabolic response within bone to 0.5% carbon dioxide levels during strict HDT bed rest**



Source: JSC Imagery Online

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## Methods

- AGBRESA: 2 females and 6 males in 60-day strict HDT bed rest
- VaPER: 5 females and 6 males in 30-day strict HDT bed rest at 0.5% CO<sub>2</sub>



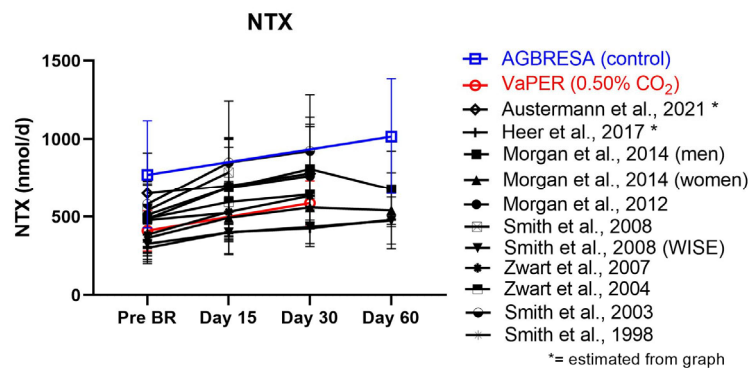
Source: JSC Imagery Online



Source: DLR

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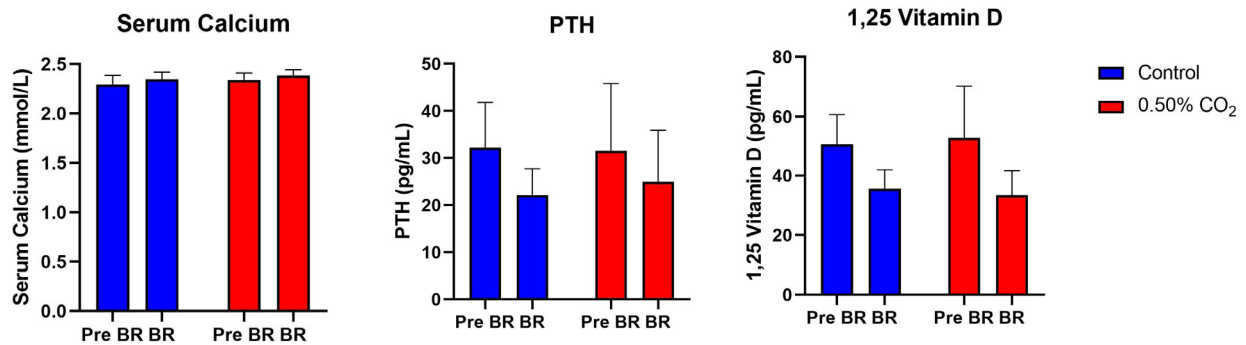
## Collagen Crosslink Markers



All bone resorption markers increased, with no significant difference between the control and CO<sub>2</sub> groups.

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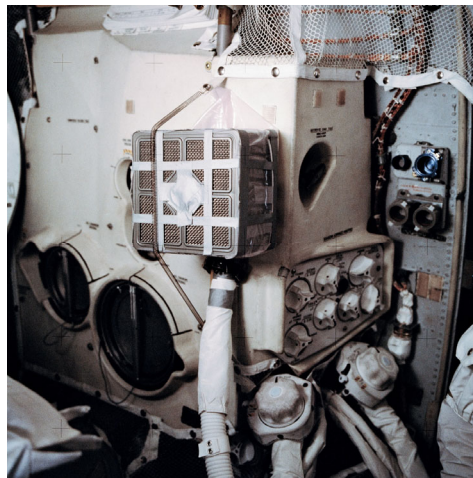
## Calcium Metabolism



There was no evidence of calcium efflux beyond the effects of bed rest.

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## Application



Source: JSC Imagery Online

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